

Remarks

Claims 1 and 12 have been amended. No new matter has been added by way of these amendments.

Drawing Objections

Applicant respectfully disagrees with the Examiner's objection regarding the drawings. Each blank box of Figures 1 and 4 is numbered. Figure 5 is labeled and is easily understood by the skilled reader.

Rejection under 35 USC 102

Applicant has amended claims 1 and 12 to emphasize the difference over Dubinsky (US 6,470,275).

The claimed invention now specifically is directed at using both a seismo-electromagnetic signal and the electromagneto-seismic signal to provide a more accurate evaluation of a permeability of a formation (see for example also paragraph [0099] of the description as filed).

There is no teaching or mention of measuring permeability in Dubinsky. More importantly, Dubinsky does not teach measurement of permeability using a so-called electrokinetic approach, which makes use of both a seismo-electromagnetic and electromagneto-seismic signal to measure permeability.

The claim has been further amended to try highlight this distinctive electrokinetic approach (see paragraph [0016]). Specifically, the claimed invention measures an electromagnetic signal from an acoustic measurement and then measures an acoustic

displacement signal from an electromagnetic excitation. The relation between these signals is ‘electrokinetic coupling’ due to the movement of an electrolyte within the formation.

The examiner alleges that Dubinsky teaches the electromagnetic-seismic signal is taught at col. 6 lines 5-15, but this passage of Dubinsky is concerned with a tool for measuring a resistivity, not a permeability (as claimed). Moreover, Dubinsky explicitly describes that it is the electromagnetic waves that are perturbed as they flow through the formation, but this is not how an electromagnetic-seismic signal of the present application is obtained. Specifically, claim 1 now recites that an electromagnetic exciting field “*causes the electrolyte to also be displaced*”. That is, the fluid in the formation contains microscopic particles which are affected by the electromagnetic signal which cause the fluid to move, which is entirely different from causing electromagnetic waves to be changed as Dubinsky teaches.

Indeed, Dubinsky is not at all concerned with electrokinetics, and more importantly, not for the measurement of permeability.

Applicant is of the opinion that this reply is fully responsive to all outstanding issues. Accordingly, the application is now deemed to be in condition for allowance, and notice to that effect is solicited. This paper is submitted in response to the Office Action mailed July 29, 2009 for which the three-month date for response was October 29, 2009. Pursuant to 37 C.F.R. § 1.136(a), Applicants petition for an extension of time of three months in which to respond to the Office Action. This three month extension will bring the deadline for response to January 29, 2010, which is within the six-month statutory period.

Please apply any charges not covered, or any credits, to Deposit Account 50-2183 (Reference Number 21.1135).

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Respectfully submitted,

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